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Biological Standards of Living in Rural Catalonia over the Long Run: A Comparison with Urban Areas (1840-1960)

Niveles de vida biológicos en la Cataluña rural en el largo plazo: una comparación con las áreas urbanas (1840-1960)

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Abstract

Objective: to assess the long-term evolution of biological living standards in rural Catalonia and to compare it with the corresponding figures in urban areas.

Methods: using data from military records of conscripts from six towns in western Catalonia, we construct an annual height series. Height is standardised at the age of 21 years. We also construct a body mass index (BMI) for conscripts born in 1891 and 1934-39. The annual height series for western Catalonia is systematically compared to the series for Reus, Catalonia's second largest city during the second half of the 19th century.

Results: comparing the cohorts born in the periods 1840-49 and 1951-60, we find that height increased by 5.7 centimetres over this period. However, the increase was not distributed equally over time. In the second half of the 19th century, rural heights stagnated over the long run and declined relative to urban heights. In the cohorts born in the decades between 1910 and 1950, rural heights rose by more than 5 centimetres, and converged with those of Reus.

Conclusion: we provide new evidence for the current debate on the rural-urban height gap. Between the 1840s and the 1950s, heights in rural western Catalonia grew at rates similar to those recorded in certain urban areas, but growth rates differed depending on the period of analysis. This study underlines the importance of adopting long-term perspectives, and stresses that rural-urban height differences tend to be time-and space-specific.

Key words:

Anthropometry. Living standards. Rural-urban height differences. Catalonia.

Resumen

Objetivo: analizar la evolución en el largo plazo del nivel de vida biológico en la Cataluña rural y explorar hasta qué punto esta fue diferente a la de las zonas urbanas.

Métodos: utilizamos datos de los registros militares de seis localidades rurales del poniente catalán con los que construimos una serie anual de estatura estandarizada a la edad de 21 años con las cohortes nacidas entre 1840 y 1960. También elaboramos un IMC para los reclutas nacidos en 1891 y 1934-1939. La serie rural de estatura se compara sistemáticamente con la de Reus, el segundo mayor centro urbano catalán de la segunda mitad del siglo XIX.

Resultados: los datos muestran que la estatura aumentó 5,7 centímetros entre las cohortes nacidas entre 1840-1849 y 1951-1960, aunque desigualmente distribuidos a lo largo del tiempo. En la segunda mitad del siglo XIX hubo estancamiento en el largo plazo y divergencia con las estaturas urbanas. Entre 1910 y 1950 la talla rural mejoró en más de 5 centímetros y terminó convergiendo con la de Reus.

Conclusión: se aporta nueva evidencia al debate sobre la brecha rural-urbana en el nivel de vida biológico. En el periodo analizado, las tasas de crecimiento de la estatura fueron parecidas en ambos ámbitos, aunque con diferencias según el periodo de análisis. Este estudio subraya la importancia de adoptar perspectivas de largo plazo y señala que las diferencias de estatura rural-urbana tienden a ser específicas de tiempo y espacio.

Palabras clave:

Antropometría. Nivel de vida. Diferencias de estatura rural-urbana. Cataluña.

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INTRODUCTION

Industry has traditionally been considered a driver of economic growth, particularly in the early stages of development (1). In the nineteenth and early twentieth centuries, European countries with the lowest percentages of population engaged in the agricultural sector were also the countries with the highest levels of per capita Gross Domestic Product (GDP). For Spain, Rosés, Martínez-Galarraga and Tirado have argued that "the correlation between per capita GDP and industrialization is far from perfect" (2), but by the early twentieth century, the three regions with the highest level of industrial intensity (i.e., the Basque Country, Catalonia and Madrid) were also the richest in Spain (2, 3) and the ones with the highest Human Development Index (HDI), as the provincial data presented by Escudero and Simón show (4). In fact, at the provincial level the Spearman's rank correlation coefficients estimated by these latter authors for 1930 show a non-negligible relationship between per capita income and the HDI. This relationship tended to increase in later periods and, according to the data presented by Martínez-Carrión and María-Dolores, remained quite high when height data are used rather than the HDI as a proxy for living standards (5).

If one accepts that over the long run there is a positive relationship between industrialization, per-capita income and living standards, one might conclude that regions that were predominantly agricultural experienced more modest improvements in terms of living standards. So did agrarian specialization hinder the expected long-term improvements in biological living standards? This is the question this article addresses. In our attempt to answer it, we use height data as a proxy for biological standards of living, and we focus on western Catalonia, specifically on the province of Lleida, the province with the highest levels of agricultural activity. In 1887, more than 80% per cent of western Catalan males were employed in the primary sector (6); by 1960, this percentage was, of course, lower, but more than one half of the total active population still worked in activities other than industry and services (7). We also adopt a long-term and comparative perspective by analysing the evolution of the stature of the western Catalan draftees born between 1840 and 1960 and by contrasting western Catalonia with other less agriculturally oriented areas. In this respect, we explore whether (and, if so, to what extent) the western Catalan population experienced similar improvements in health and nutrition to those achieved in areas with different economic compositions. By means of this approach, we aim to add to the current literature on the urban-rural height differences (8-10).

SOURCES AND METHODOLOGY

In this study we use the stature of young men as a proxy for biological living standards. These data come mainly from the Actas de Clasificación y Declaración de Soldados (Acts of Classification and Declaration of Soldiers, hereafter, ACDS). These documents are generally available at municipal level and include a large amount of information, such as the physical stature of the draftees and the year of birth. They sometimes also include data on the conscripts' places of birth, their occupations and levels of literacy, and, occasionally, on their weight and chest width. This information was collected during the recruitment process for military service, which the Recruitment Act of 1837 made obligatory for all young Spanish men. Regardless of their social and economic situation and their physical condition, all young men were summoned for inspection in the year of military enlistment, although not all of them were eventually called up for military service. For example, draftees who did not reach a minimum height requirement were excluded, as were those with physical or mental disabilities; in addition, the only sons of disabled, poor or sexagenarian parents were also exempted from serving.

Our main dataset of height measurements refers to western Catalonia. The final series we use comprises almost 23,000 observations for the cohorts of men born between 1840 and 1960 and enlisted between 1860 and 1980. Height information has been collected at municipal level and includes the main towns in the southern part of the province of Lleida (Fig. 1), namely Balaguer, les Borges Blanques, Cervera, Mollerussa, Tàrrega as well as the village of Juneda. Fortunately, our final series is not affected by censoring or by truncation, which is one of the potential shortcomings of military samples (11); on the contrary, in fact, the distribution of frequencies presented in figure 2 shows a quasi-normal (Gaussian) pattern. There are two reasons for the normality of the distribution: first, in Spain military service was universal; second, we have been able to collect data for almost all the conscripts called up for military service during the period under consideration (22,285 out of 26,024, namely 86%: Table I).

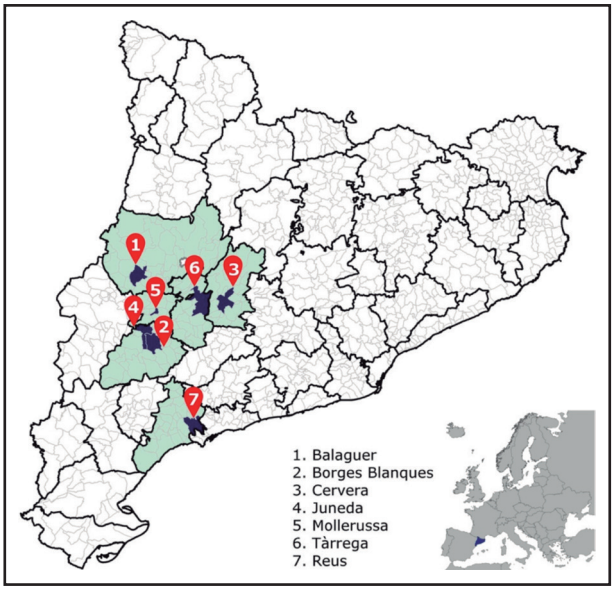

Figure 1.

Geographical location of the towns included in this study. Sources: Based on http://epp.eurostat.ec.europa.eu and http://municat.gencat.cat.

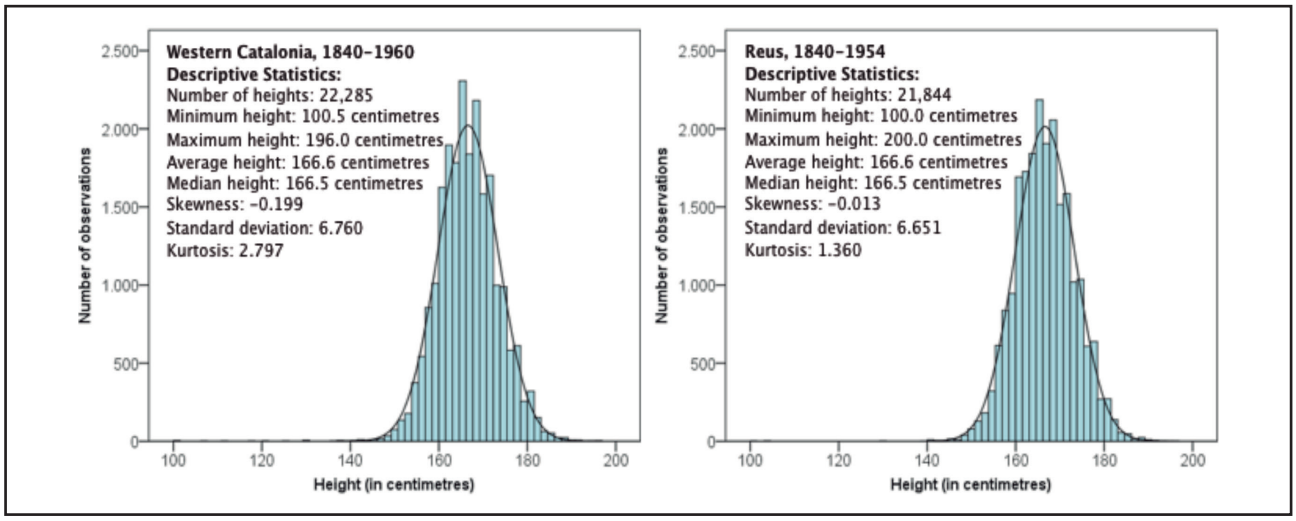

Figure 2.

Distribution of the heights of conscripts from western Catalonia and Reus by periods of birth, 1840-1960 (standardised height at age 21 years). Sources: See Section Sources and Methodology.

Table I. Dataset of the heights of conscripts from western Catalonia born between 1840 and 1960

Period of birth	Period of recruitment	Western Catalonia		Reus		Total	
		TC	CHD	TC	CHD	TC	CHD
1840-1850	1860-1870	948	759	1,816	975	2,764	1,734
1851-1860	1871-1880	918	512	1,731	555	2,649	1,067
1861-1870	1881-1889	1,433	1,130	2,080	1,307	3,513	2,437
1871-1880	1890-1899	1,778	1,576	2,268	2,188	4,046	3,764
1881-1890	1901-1911	2,285	2,049	2,149	1,986	4,434	4,035
1891-1900	1912-1921	2,546	2,238	2,282	1,811	4,828	4,049
1901-1910	1922-1931	2,598	2,235	2,327	1,882	4,925	4,117
1911-1920	1932-1941	2,493	1,740	2,503	1,574	4,996	3,314
1921-1930	1942-1951	2,578	2,236	2,655	2,173	5,233	4,409
1931-1940	1952-1961	2,163	1,919	2,488	1,884	4,651	3,803
1941-1950	1962-1971	2,823	2,542	3,603	3,219	6,426	5,761
1951-1960	1972-1980	3,461	3,349	2,373	2,290	5,834	5,639
Total		26,024	22,285	28,275	21,844	54,299	44,129

Notes and sources: Total Conscripts (TC), Conscripts with Height Data (CHD). For Reus, 1951-1960 (1972-1980) is 1951-1954 (1972-1975). See Section Sources and Methodology and Table Ia.

Of course, this does not mean that our data are entirely problem-free. The most apparent shortcoming is to do with changes in the age of recruitment. Over the course of the nineteenth and early twentieth centuries, the military authorities modified the age of enlistment on several occasions. In 1852, military service was made compulsory at the age of 20. In the second draft of 1885, and until 1899, the age was reduced to 19 years. Between 1900 and 1905, it rose to 20, and then rose further to 21 in 1907 (12,13). Evidently, these changes in the age of recruitment have implications for the construction of long-term height series. The velocity of height growth changes over the life-span, being comparatively high during the first years of life and rising again during puberty. Thus, comparing the height of draftees measured at different points in their life may bias the final results (14).

To avoid this bias, we standardised the heights of the draftees at the age of 21 years for the periods during which a different recruitment age was established. Several procedures can be used to standardise the heights of conscripts over time. Some authors

have used a longitudinal methodology; for instance, by using the ACDS they have analysed the data available for excluded conscripts, who by law had to be measured on several occasions in the three years after their rejection (15). For reasons of data availability we used a different methodology, which we have described in previous work (16,17). In this particular case, we first took the 50th percentile in height of three different groups of cohorts of recruits measured at different ages, namely draftees born between 1876 and 1880, who were measured at the age of 19 years; conscripts born in the period 1881-1885, enlisted at the age of 20, and, finally, soldiers born between 1886 and 1890, recruited at the age of 21. Second, we calculated the absolute variation of the 50th percentile height across the different age cohorts. Third, we applied these variations to the corresponding cohorts in order to standardise heights at the age of 21. Thus, we assumed that a man will be 0.75 centimetres taller at the age of 21 than at the age of 20. Similarly, we assumed that 19-years-old would have grown a further 1.10 centimetres by the age of 21, meaning that at the age of 21 they would have been 1.85 centimetres taller (Table II).

In addition to the dataset for western Catalonia, we also used a dataset of height measurements for the southern Catalan city of Reus, which comprises more than 21,000 observations and covers the birth cohorts from 1840 to 1953 (Table I). As in western Catalonia, it also follows a quasi-normal (Gaussian) pattern in the distribution of frequencies (Fig. 2). Applying the methodology explained above, when necessary the original height data was standardised in order to produce a homogeneous final series. The series of annual heights for Reus was used for comparative purposes.

With the same purpose of comparison, we also used complementary sources of information other than the ACDS. In this case, the height data refer to Catalonia and include the cohorts born between 1935 and 1960. These data were obtained from the *Anuario Estadístico de España* (the *Statistical Yearbook of Spain*) and the *Anuario Estadístico Militar* (the *Military Statistical Yearbook*), which summarise data originally published in the *Estadística de Reclutamiento y Reemplazo de los Ejércitos* (the *Statistics on Recruitment and Replacement of Armies*). This information, which is always presented at regional level, was made available each year from 1955 until 2000, when compulsory military service was finally abolished in Spain.

Unfortunately, we need to take great care when using this information, because of the way itis presented. First, the available height data only refer to conscripts who carried out their military service, and so draftees who were below the minimum height and those who did not eventually serve in the army were excluded. Second, height data have to be estimated, as they are presented in class intervals and frequencies (which, in addition, may have changed over time). Finally, the sources we use presented the data at regional level, although the regions from the yearbooks are organised according to what were known as anthropometric and demographic regions. This regional organisation of the data does not always match with historical regions: for example, the Balearic Islands were included in the Catalan anthropometric and demographic region.

RESULTS

Did biological living standards improve in the agriculturally-oriented region of western Catalonia over the long run? Figure 3 shows the evolution of height in this geographical area for the cohorts born between the mid-nineteenth and mid-twentieth centuries. The figure makes it clear that the (standardised) height of the 21-year-old recruits rose from almost 165 centimetres in the cohorts born in the period 1840-49 to slightly more than 170 centimetres in those born in 1951-60, namely an increase of 5.7centimetres over 120 years (or 0.47centimetres per decade).

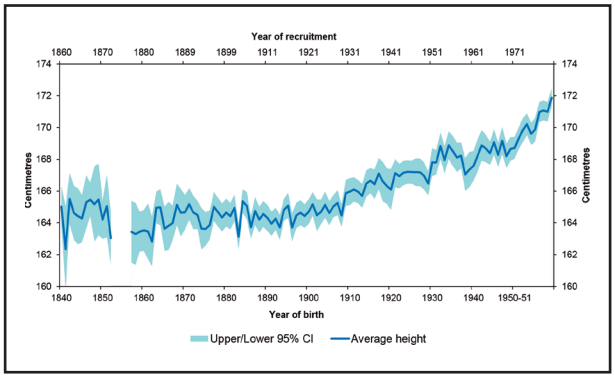

Figure 3.

Mean height of conscripts in western Catalonia in the nineteenth and twentieth centuries (standardised height at age 21 years, in centimetres, annual averages). Source: See Section Sources and Methodology.

Table II. Estimates of the absolute variation of the 50th percentile height across the cohorts of conscripts in western Catalonia born between 1876 and 1890

Age	Year of birth	Year of recruitment	Conscripts with height data	P_{50} cm	Height variation	
					age	cm
19	1876-1880	1895-1899	867	162.4	19 to 20	1.10
20	1881-1885	1901-1905	1,023	163.5	20 to 21	0.75
21	1886-1890	1907-1911	1,026	164.3	19 to 21	1.85

Sources: See Section Sources and Methodology.

This increase was not equally distributed over time, and in fact two different periods can be clearly distinguished. The first one covers the birth cohorts born between the 1840s and the 1890s. In this period, the mean height of the young men in western Catalonia was around 164.3 centimetres and, most importantly, it remained practically unchanged over the long run even though it fluctuated considerably around this mean value. Between the period 1840-1849 and 1851-1860, the height of western Catalan men dropped by 1.4 centimetres, from 164.8 to 163.4, a statistically significant fall ($t = 3.000$, $p = 0.003$). Height recovered from the decline in the 1850s, but it dropped again throughout the 1870s ($t = 1.146$, $p = 0.252$) and during the second half of the 1880s and the early 1890s ($t = 2.105$, $p = 0.035$), finally reaching the level of 164.4 centimetres in the period 1891-1900, which was not very different from the figure for the 1840-1849 decade (164.8).

The beginning of the twentieth century marked a turning point in the evolution of the biological living standards in western Catalonia. In fact, it was only after the early 1900s that the height of the cohorts of western Catalan draftees began to rise (Fig. 4). Although annual fluctuations can be observed, the trend remained quite steady over time and was only interrupted during the years of the Spanish Civil War (1936-1939). The data available show that the cohorts born during these years were 0.6 centimetres shorter than those born in the 1931-1935 period, a statistically significant fall ($t = 1.925$, $p = 0.054$). An analysis by decades shows that between 1900 and 1960 the height of young males aged 21 years increased most rapidly in the cohorts born in the 1910s, when it rose by 1.3 centimetres relative to the previous decade, and the 1950s, when the height of the cohorts of conscripts rose from 168.6 (1941-1950) to 170.4 (1951-1960), an improvement of 1.8 centimetres. By contrast, the acceleration of height tended to be more modest in the 1920s (relative to the 1910s) and the 1940s (relative to the 1930s), since in these two periods men's height rose by only 0.8 and 0.6 centimetres respectively.

As the height of the cohorts born between the early and the mid-twentieth century improved markedly, one might expect the same trend to appear with regard to the Body Mass Index (BMI). The BMI is calculated by dividing the weight of the individual (in kilograms) by the square of his or her height (in metres). Figure 4

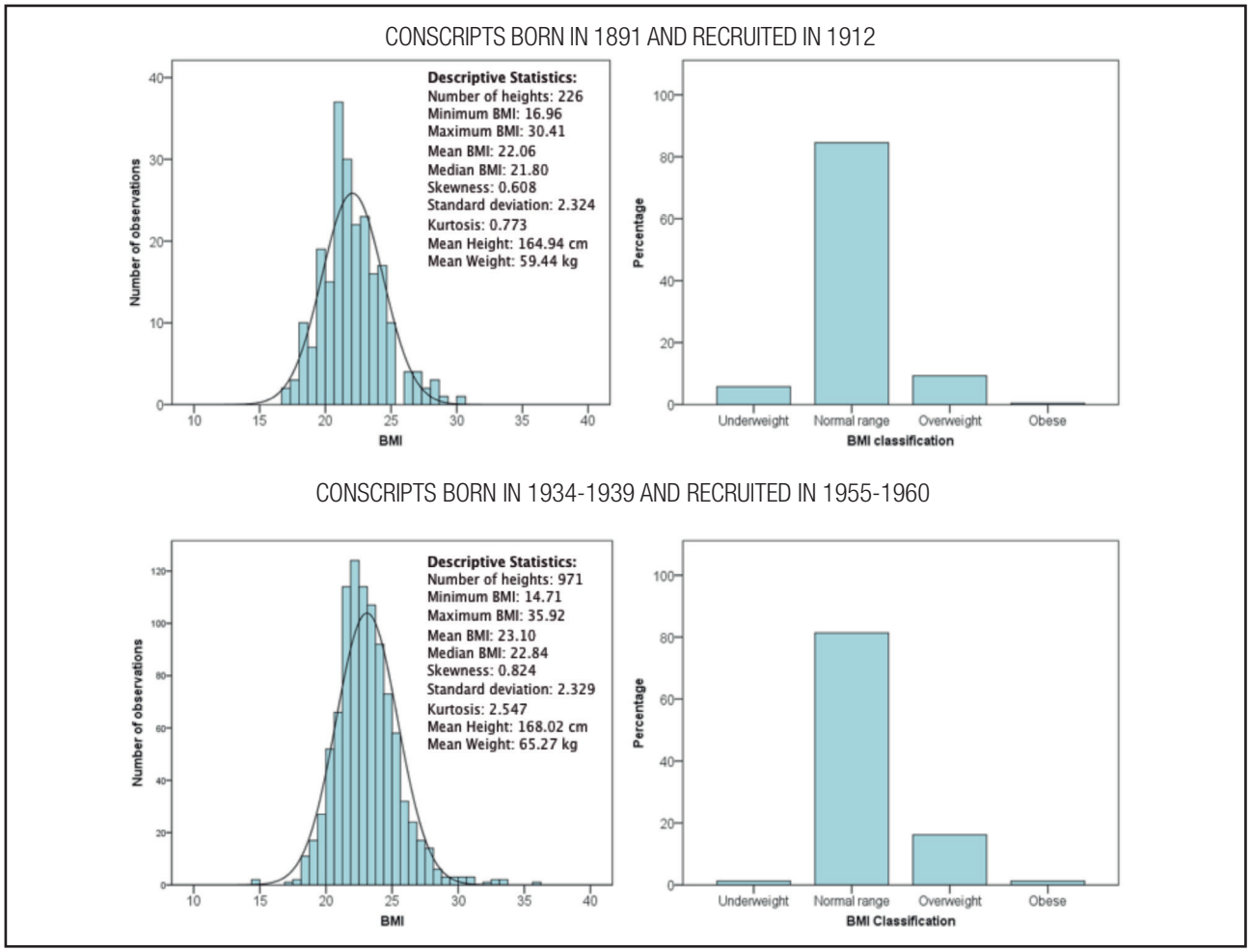

Figure 4.

Body Mass Index (BMI) for 21-year-old conscripts from western Catalonia, late nineteenth and mid-twentieth centuries. Source: See Section Sources and Methodology.

displays the results for two periods in time: first, conscripts born in 1891 and measured and weighed in 1912; second, conscripts born in 1934-1939 and measured and weighed in 1955-1960. According to the World Health Organization's international BMI classification (18), six per cent of the total western Catalan conscripts enlisted prior to the First World War were underweight, while 85% were normal weight, with a BMI of 22.06 kg per cubic meter, a figure similar to that for the whole province of Lleida for the cohorts born in 1883-1886 (19). Interestingly, the proportion of underweight conscripts had fallen to 1.2% for those born and recruited after the first third of the twentieth century, although it is true that the proportion of overweight recruits had increased, from 9 to 16 per cent.

Thus, using height trends as a proxy, it is apparent that the biological standards of living improved in western Catalonia in the first half of the twentieth century, something that had not happened in the second half of the nineteenth century. Nevertheless, the key point is whether improvements in health and nutrition in this agriculturally-oriented area over the long run were similar to those achieved in other economic contexts, such as the industrial and commercial city of Reus in southern Catalonia. At the present stage of research, this is the only Catalan urban area for which we have birth cohort data covering most of the period between 1840 and 1960 (20). By 1857, Reus had established itself as a dynamic industrial centre (21) which had become the second largest city in Catalonia with 28,171 inhabitants (22,23); although it subsequently lost population, it maintained this position until around the census year of 1900. In the new century, the city of Reus turned towards services (24,25) and by 1960 the services sector accounted for 42% of the labour force; industry and building made up 41%, and the rest were employed in the primary sector (7).

Figure 5 compares the long-term evolution in height between conscripts from western Catalonia and those from Reus. A ratio above unity means that the former were taller than the latter, and vice versa. We mostly focus on trends. Interestingly, the available data do not show a linear trend in the ratio between western Catalonia and Reus over the long run, but rather a combination of periods of divergence and convergence. Between the mid-nineteenth century and the first decade of the twentieth, the biological living standards of the western Catalan young men tended to decline relative to those of their counterparts in Reus. It is true that the estimated ratio between these two geographical areas fluctuated considerably, but while the conscripts from western Catalonia born in the period 1848-1852 were 1.1 centimetre taller than those from Reus, the opposite was true for the cohorts born in the period 1905-1909; by this time, the western Catalans were already 1.6 centimetres shorter, although their height disadvantage had actually begun earlier in the cohorts born around 1870, with statistically significant differences for the period 1875-1909 (t = -9.327, p = 0.000). A similar trend emerges if we compare cohorts in western Catalonia and the industrial town of Igualada born between the late 1860s and the years around 1910, since the height of the western Catalans also declines relative to their peers from Igualada (17,26).

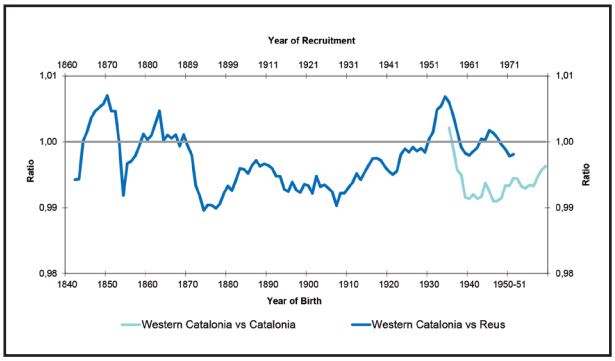

Figure 5.

The mean height of conscripts in western Catalonia compared to conscripts from Reus and from Catalonia as a whole: cohorts born between 1840 and 1960 (five-year moving averages). Source: See Section Sources and Methodology.

Divergence was followed by convergence. This new period lasted from the birth cohorts born around 1910 to those born in the mid-1930s, and possibly later. Again, this period of convergence was characterised by rises and falls; the most important fluctuation was recorded in the 1930s, more precisely during the Civil War years (1936-1939). The final result of this convergence process was that the western Catalan cohorts of men born in the period 1932-1936 once again became taller than their counterparts from Reus, with a mean height of 168.5 centimetres compared with 167.3 centimetres –a statistically significant difference of 1.2 centimetres (t = 3.785, p = 0.000).

Unfortunately, complete height data for the cohorts recruited in Reus during the 1950s are not available. The existing evidence for this city might suggest that divergence began again with the cohorts born in the mid-1930s. However, this is difficult to establish conclusively. Judging from the available data for Catalonia, one might hypothesise that the potential divergence suggested above ended in the mid-1940s and that convergence then resumed and lasted until 1960. One might also hypothesise that mean height was very similar among the recruits from western Catalonia and Reus born in the 1940s and the 1950s and, therefore, the existing differences in height across these two geographical areas were not statistically significant. This was at least the case for the cohorts born in the 1940s (t = 0.168, p = 0.866).

Taking the birth cohorts of the period from the 1840s to the 1950s as a whole, the height of the young men living in rural western Catalonia grew at rates similar to those in Reus, namely more than 5 centimetres. In the case of western Catalonia, the bulk of this increase was concentrated in the first half of the twentieth century.

CONCLUSION

The results presented in the above section contribute to the wider debate on the presence or absence of rural-urban height differences in the nineteenth and twentieth centuries. In both northern and southern Europe and in the United States, heights

generally declined in the early stages of the industrialization process (8,9,17,22,28), for several reasons: rural migrants to urban areas had a poorer diet in the cities; population growth and rapid urbanization favoured the transmission of diseases; and the health environment deteriorated in urban areas. In this context, the biological living standards of urban dwellers declined both in absolute terms and relative to their rural counterparts. However, as the nineteenth and early twentieth centuries progressed, a combination of factors such as investment in public sanitation, medical and sanitary improvements, and transport innovations led to a rapid increase in height in urban residents and, finally, to the emergence of an "urban premium" and a "rural penalty".

Though broadly accurate, this narrative requires some qualifications, particularly for the nineteenth century. The available research in this field suggests, in fact, that rural-urban height differences tend to be time- and space-specific. The evidence for western Catalonia points in this direction. For the cohorts born around 1850, heights in rural western Catalonia were higher than in the city of Reus as well as relative to other urban centres such as Igualada (17,26). Nevertheless, from the cohorts born in the early 1860s onwards the height of young men in western Catalonia began to diverge relative to Reus; and for the birth cohorts of the early 1870s, the western Catalan rural premium had already turned into a rural penalty and continued so for several decades.

To a large extent, this relative decline was due to the long-term stagnation of western Catalan heights in the second half of the nineteenth century. In contrast, the cohorts of conscripts born in Reus between the mid-1860s and the mid-1910s experienced a clear improvement in terms of biological living standards. In western Catalonia, the stagnation of the height of young men in the nineteenth century might be attributed to the poor performance of the region's agriculture. The reality, however, was more complex. After the 1860s agriculture began to benefit from irrigation, and intensive crop farming progressed considerably in the second half of the nineteenth century. Real wages were higher in 1900 than forty years earlier (16,29,30). In spite of these improvements, the transformation of the agricultural sector was, in many respects, partial and limited, andunable to raise the biological living standards of the western Catalans. Whether or not other factors such as family size (31) contributed to this poor performance in terms of health and nutrition should be explored in further research.

Of course, what was true for western Catalonia was not necessarily true for other areas in the Iberian Peninsula. For example, the (standardised) height of rural conscripts from Castile-Leon, eastern Andalusia, Valencia, Madrid and south-eastern Spain recorded improvements of around one centimetre or more between the birth cohorts of 1876-1880 and 1901-1905 (15,32-35). In fact, in the second half of the nineteenth century rural heights in the region of Valencia exceeded urban heights, particularly when the conscripts were from irrigated areas (36). In south-eastern Spain rural heights were lower than urban heights in the mid-nineteenth century but had practically caught up by the period 1901-1905 (15).

Whereas in western Catalonia a "rural penalty" had emerged in the last decades of the nineteenth century, a process of convergence relative to certain urban areas was noted in the cohorts born around 1910. As a result, the western Catalan rural height penalty disappeared, at least compared to the city of Reus. Interestingly, this convergence process was mainly due to the result of a rapid and marked increase in heights in western Catalonia, while the height of young men in Reus stagnated. In regions such as Castile and Leon different pattern was observed, and, in fact, a rural height penalty emerged during the first third of the twentieth century (35).

The increase in height in western Catalans in the twentieth century ran in parallel with the rise of the agricultural sector, which was now more intense and robust than in the second half of the nineteenth century. For example, by around 1930 agricultural yields more than doubled those of the period 1850-1900 (16), mainly because of the use of new fertilizers. One might conclude that gains in agricultural productivity translated into better living standards.

Interestingly, for the cohorts born during the 1930s a new rural premium emerged. This premium cancelled out over the course of the following decade, but for the cohorts born in the 1940s, and perhaps in the 1950s, living in rural western Catalonia or in the urban Reus did not make any substantial difference to the mean height of recruits. In other regions such as Valencia, the rural premium found in certain agricultural areas since the second half of the nineteenth century remained in place and indeed gained strength after the Spanish Civil War, particularly in irrigated areas (36).

So, did agrarian specialization hinder the expected long-term improvements of biological living standards in Catalonia? The evidence presented in this article, though limited, warns against offering any categorical answers. In fact, it stresses the importance of the historical context in the debate on the presence or absence of rural-urban height differences (37). A limitation of this paper is that is heavily dependent on two series. To our knowledge, these two series are the only currently available records of annual height data for the cohorts born between the 1840s and the 1950s. Having said this, it is also true that the height of young men in rural western Catalonia grew at rates similar to those recorded in the industrial and commercial city of Reus; this suggests that, over the long run, agrarian specialization did not necessarily hold back improvements in biological living standards.

Annex. Table Ia. Dataset of the heights of conscripts from western Catalonia born between 1840 and 1960

Period of birth	Period of recruitment	Balaguer		Les Borges Blanques		Cervera		Juneda		Mollerussa		Tàrrega		Total	
		TC	CHD	TC	CHD	TC	CHD	TC	CHD	TC	CHD	TC	CHD	TC	CHD
1840-1850	1860-1870	392	341	nd	nd	185	138	124	114	nd	nd	247	166	948	759
1851-1860	1871-1880	394	234	nd	nd	208	97	120	105	nd	nd	196	76	918	512
1861-1870	1881-1889	336	238	94	65	359	292	234	221	77	71	333	243	1,433	1,130
1871-1880	1890-1899	529	446	137	105	333	304	261	254	127	121	391	346	1,778	1,576
1881-1890	1901-1911	510	397	431	416	376	362	249	236	226	204	493	434	2,285	2,049
1891-1900	1912-1921	565	405	427	403	502	457	326	315	244	232	482	426	2,546	2,238
1901-1910	1922-1931	610	435	432	406	390	351	361	340	299	243	506	460	2,598	2,235
1911-1920	1932-1941	632	373	226	170	446	346	367	268	333	239	489	344	2,493	1,740
1921-1930	1942-1951	605	480	405	369	459	392	292	282	315	277	502	436	2,578	2,236
1931-1940	1952-1961	493	448	353	314	294	261	235	215	318	275	470	406	2,163	1,919
1941-1950	1962-1971	783	692	409	372	354	337	256	226	452	397	569	518	2,823	2,542
1951-1960	1972-1980	938	909	397	380	482	471	218	213	617	581	809	795	3,461	3,349
Total		6,787	5,398	3,311	3,000	4,388	3,808	3,043	2,789	3,008	2,640	5,487	4,650	26,024	22,285

Notes and sources: Total Conscripts (TC), Conscripts with Height Data (CHD). See Section Sources and Methodology.

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